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March 15, 2023

North Rockland High School Projects – Phase 1
MSA File No. 42051

High School	**SED No. 50-02-01-06-0-016-035**
Press Box (Demo)	**SED No. 50-02-01-06-7-026-001**
Concessions-Press Box (New)	**SED No. 50-02-01-06-7-079-001**
Fieldhouse	**SED No. 50-02-01-06-7-008-001**

NOTICE TO BIDDERS

Re: **ADDENDUM NO. 3**

THE FOLLOWING REVISIONS TO THE PROJECT MANUAL AND OR THE DRAWINGS REFERENCED HEREIN SHALL BECOME A PART OF THE CONTRACT DOCUMENTS AND SHALL SUPERSEDE ANY PRIOR OR CONFLICTING INFORMATION.

1) SEALED BIDS will be received until 2:00 PM. in the office of facilities, on the 21st of March 2023, at the North Rockland Central School District, 65 Chapel Street, Garnerville, NY 10923, at which time and place they will be publicly opened and read. Faxed bids will NOT be accepted. Bids must be in sealed envelope(s) approximately labeled with the following label:
"North Rockland High School Projects – Phase 1 – General Construction"
"North Rockland High School Projects – Phase 1 – Mechanical Construction"
"North Rockland High School Projects – Phase 1 – Electrical Construction"
"North Rockland High School Projects – Phase 1 – Plumbing Construction"

2) Deliver Bids to: North Rockland Central School District
65 Chapel Street
Garnerville, NY 10923

3) The North Rockland Central School District is exempt from sales tax.

4) Requests for information may be emailed to bidding@shilale.com.

5) Requests for additional site visits may be emailed to bidding@shilale.com. We will coordinate with the District for additional visits if required.

6) On pages 016400-3 and 016400-4 for the furnished items are all items furnished and installed by owner. *Owner to furnish items listed in spec section 016400 item 3.4. Contractor shall install as per spec section 016400 item 3.2B "Contractor shall install Owner-furnished products in accordance with reviewed shop drawings and manufacturer's printed instructions, as applicable." See attached revised specification section 016400 Owner Furnished Products. Item 3.4 List of Owner Furnished Products have been revised.*

7) The Dedicated Outside Air System (DOAS) units will now be Pre-Purchased along with the Roof Top Units (RTU). The Owner to furnish the DOAS units and RTU's and to be installed by the Mechanical Contractor. See attached revised specification section 016400 Owner Furnished Products. Item 3.4 List of Owner Furnished Products have been revised.

8) On the site bid as there is a lot of underground piping to be removed, can these pipes be abandoned only or do they need to be dug up, removed and backfilled.
The Site Bid has already been awarded under a cooperative purchasing contract. Any additional underground utilities to be removed by other Contracts are to be addressed in the manner described in specification section 310000 Earthwork item 3.2 Underground Utilities.

9) On detail D/S-510, can the concrete be precast and not poured in place.
Precast concrete may be substituted for the cast-in-place concrete shown in detail D/S-510. However, the cast-in-place was chosen in this design due to the cantilever slabs in two directions at each end of the roof. If the precast manufacturer can provide an engineered design that will allow for the pre-cast planks to cantilever in both directions, we will approve such a substitution.

The Contractor may submit alternative methods of construction to achieve the same design intent. Contractor must bare cost to prove Building Code and NYSED compliance. Contractor would also bare cost for Architect's review of substitutions as per specification section 001800 Modifications to General Conditions item 3.4.B., "The Owner shall be entitled to reimbursement from the contractor for amounts paid to the Architect for reviewing the Contractor's proposed substitutions and to make agreed-upon changes in the Drawings and Specifications resulting from such substitutions."

10) The scale on drawings C-102 is incorrect. It says 1"=40', but is probably 1"=50'.
The scale for detail 1/C-102 is 1"=50' not 1"=40' as written.

11) If the synthetic surface/carpet is furnished and installed by the owner, who is responsible for the striping and logo after the carpet and resilient pairing is layed.
Specification section 011200 Multiple Contract Summary, dated 03-07-23 issued in Addendum 2, item 1.10.5.C.1 states, "The Synthetic Carpet and Installation will be provided by the site contract. The site contractor will be responsible for all subbase and infrastructure associated with the new synthetic field. Final acceptance of subbase and field planarity from synthetic carpet manufacturer will be required prior to installation." The Site Bid has already been awarded under a cooperative purchasing contract.

12) Does the plumber excavate for the 4" pipe at the interior of concession building or does the GC.
Specification section 011200 Multiple Contract Summary, dated 03-07-23 issued in Addendum 2, item 1.12.A.4.B states, "The General Construction Work Contract shall perform all necessary trenching, excavation, backfilling, compaction and field required concrete for all other primes within the delineated General Construction Work area unless noted otherwise."

13) On the plumbing bid form the total project line says electrical
See attached revised specification section 003003 P Plumbing Bid Form. Plumbing bid form has been updated to state Plumbing instead of Electrical on the project total line.

14) There is a detail 4/A-690 for ceramic tile however, there is no ceramic tile on the finish schedule.
There is no ceramic tile to be installed as part of the project. Detail 4/A-690 shall be removed from the project.

15) Drawing A-720 has a detail 2/A-720 for anchoring weight room equipment. However, the scope shows weight room equipment to be furnished and installed by owner. Does the GC do this anchoring.
General Contractor will do this anchoring. As per spec section 016400 item 3.2B "Contractor shall install Owner-furnished products in accordance with reviewed shop drawings and manufacturer's printed instructions, as applicable." Weight room equipment listed in the Equipment Schedule on A-721 shall be installed as per detail 2/A-720.

16) Are any fire extinguishers required.
Yes, fire extinguishers are required. General Contractor to provide and install. See plans B-111, B-121, B-122 and B-141 for fire extinguisher locations. Include three additional fire extinguishers for the Press Box. Locations to be designated in the field.

17) Are any other manufactures acceptable for the resinous flooring, i.e. Elite Crete?
The Contractor may submit alternative methods of construction to achieve the same design intent. Contractor must bare cost to prove Building Code and NYSED compliance. Contractor would also bare cost for Architect's review of substitutions as per specification section 001800 Modifications to General Conditions item 3.4.B., "The Owner shall be entitled to reimbursement from the contractor for amounts paid to the Architect for reviewing the Contractor's proposed substitutions and to make agreed-upon changes in the Drawings and Specifications resulting from such substitutions."

18) See attached revised specification section 008100 Modifications to General Conditions. It has been revised to coordinate with AIA Document A232 General Conditions of the Contract for Construction, Construction Manager as Adviser Edition issued in Addendum No. 1.

19) Please advise what the schedule is for the project.
See attached tentative Project Milestone Schedule.

20) Please confirm who is responsible for the demolition at the bleachers/grandstand. The GC or the Site Contractor?
Work associated with the Grandstand (demo, alternations, new installations) will be performed under separate State Contract. Specification section 011200 Multiple Contract Summary, dated 03-07-23 issued in Addendum 2, item 1.10.5.C.3 states, "Bleachers / ADA Ramps to be purchased off of state contract. Strict coordination will be required during shop drawing process and final installation. The foundations associated with the Bleachers and ADA Ramps will be provided by the Site contract." Work associated with the Visitor's Grandstand will be awarded under state contract. Concrete foundations for all grandstand work is part of the Site Contract awarded under cooperative purchasing contract and has been removed from bidding.

21) The RTUs in the project are to be without reheat coils. See attached revised specification section 237313 Air Handling Units. It has been revised to remove the reheat coils.

22) Please confirm all of the grandstands, bleachers, modification of the bleachers, and footing for the bleachers is by the site contractor.
Work associated with the Grandstand (demo, alternations, new installations) will be performed under separate State Contract. Specification section 011200 Multiple Contract Summary, dated 03-07-23 issued in Addendum 2, item 1.10.5.C.3 states, "Bleachers / ADA Ramps to be purchased off of state contract. Strict coordination will be required during shop drawing process and final installation. The foundations associated with the Bleachers and ADA Ramps will be provided by the Site contract." Work associated with the Visitor's Grandstand will be awarded under state contract. Concrete foundations for all grandstand work is part of the Site Contract awarded under cooperative purchasing contract and has been removed from bidding.

23) Drawing S120 has lintels L1 & L2, however there is no detail showing the size of the lintels. They are not cold formed lintels as shown on previous drawings. Please advise.
Refer to detail 4/S-120 for lintels L1 and L2. The angle sizes are the same for L1 and L2. Lintel spans as shown on the drawing 3/S-120.

24) Does the GC provide the Neo240 ice machine? There is no spec for the appliances. Does the owner furnish and install the icemaker? Please advise.
The ice machine, "Item No. 6" on the Equipment Schedule on A-613 is to be provided by Owner and will be installed by the Plumbing Contractor. Water connection to be installed by Plumbing Contractor as per 2/P-110. Provide an additional floor sink fixture (FS-1) complete with sanitary and vent piping beneath the icemaker. Refer to the fixture schedule on P-011 and detail 4/P-511 for typical floor sink requirements. The exact location

should be coordinated with the owner. Additionally, the jug filler, "Item No. 5" on the Equipment Schedule on A-613 is to be provided and installed by the Plumbing Contractor. Water connection and waste line to be installed by plumbing Contractor as per 1/P-110 & 2/P-110.

25) Some of the A-type fixtures in the weight room, and B-type fixtures in the locker room indicate EM, but these fixtures are not reflected in the lighting schedule. Please advise
The emergency fixtures in the weight room are to be circuited from panel HEMB-11. The emergency fixtures in the locker room are circuited from panel HEMB-13. Based on our survey panel HEMB is hooked up to the Emergency generator. Hence there will be only one type of fixture in the weight room (A-type) and locker room (B-type).

26) C&CE fixtures in the "storage room" / Field House E-140 have two model #'s in the lighting legend. Which one are we to use?
Both fixtures are to be used. Refer to floor plan 1/E-140 of the Field House for location and quantity of C and CE type fixtures. Fixture CE is emergency and has an internal battery pack.

27) Drawing CE-410 depicts items 1-4 as existing equipment. Drawing E-410 partial Riser depicts these items as new, the Drawings are contradicting and need to be clarified. Are items 5-15 on drawing CE-410 existing?
All items shown on CE-410 are new except for the existing panel for the scoreboard and disconnects (Items 14 and 15). The table on detail 1/CE-410 titled "Description of Existing Electric Service Equipment" shall be renamed "Description of Electric Service Equipment".

END OF ADDENDUM NO. 3

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PART 1 - GENERAL

1.01 GENERAL

A. Pursuant to, and in compliance with, your Advertisement for Bids and the Information to Bidders relative thereto and all of the Contract Documents, including any Addenda issued by the Architect and mailed to the undersigned prior to the opening Bids, whether received by the undersigned or not, we

_____
(CONTRACTOR NAME)

hereby proposes to furnish all plant, labor, supplies, materials and equipment for North Rockland High School Projects- Phase 1, as required by and in strict accord with the applicable provisions of the Drawings and Specifications entitled "North Rockland High School Projects- Phase 1 - Plumbing at 106 Hammond Rd, Thiells, NY 10984 for the North Rockland Central School District, 65 Chapel Street, Garnerville, NY 10923 ", all to the satisfaction and approval of the Architect and the Owner in accordance with the terms and conditions of the Contract Documents for the following prices:

1._____Dollars
(Write out in words)
(_____) Base Bid for all work.

_____ Consecutive Calendar Days for substantial completion _____with base bid.

The undersigned further proposes and agrees hereby to commence work with an adequate force and equipment immediately after being notified in writing to do so, and to achieve substantial completion for all work as required by the plans and specifications within the number of consecutive calendar days as itemized above.

A. North Rockland High School Projects- Phase 1

Total Project Plumbing ($_____)

B. ALTERNATES

The undersigned further proposes and agrees that, should any of the following alternates be accepted and included in the Contract, the amount of the Base Bid, is hereto stated, shall be increased or decreased by the amounts indicated below.

No alternates at this time.

C. ALLOWANCES

The Contractor shall include in the Contract Sum all allowances stated in the Contract Documents.

Allowance No. 4 – Plumbing testing.

($_____)

1.02 TIME OF COMPLETION

A. It is agreed by the undersigned that after receipt of Notice of Award and a consummation of a Contract Agreement in accord with the terms of the Contract Documents, he will start work on _____ 2023. Substantial completion will be _____2023. The punch list work will be completed by _____ 2023 and performed after school hours.

1.03 BID SECURITY

A. Attached hereto is Bid Security in the amount of five percent (5%) of the Base Bid.

1.04 UNIT PRICES

A. For work to be supplied or omitted at the price rate stipulated herein should the volume of work be increased, the following unit prices will be established as the limitations for such items of work, and each unit price shall include material, labor and services of each and everything necessary or required to complete for like work in kind, quality and function.

No unit prices at this time

1.06 NON-COLLUSIVE BIDDING CERTIFICATION

A. By submission of this bid, each bidder and each person signing on behalf of any bidder certifies, and in the case of a joint bid each party thereto certifies as to its own organization, under penalty of perjury, that to the best of knowledge and belief:

1. The prices in this bid have been arrived at independently without collusion, consultation, communication, or agreement, for the purpose of restricting competition, as to any matter relating to such prices with any other bidder or with any competitor.

2. Unless otherwise required by law, the prices which have been quoted in this bid have not been knowingly disclosed by the bidder and will not knowingly be disclosed by the bidder prior to opening, directly or indirectly, to any other bidder or to any competitor; and

3. No attempt has been made or will be made by the bidder to induce any other person, partnership or corporation to submit or not submit a bid for the purpose of restricting competition.

Resolved that _____
(Name of Individual)
be authorized to sign and submit the bid or proposal of this corporation for the following project
_____and to include in such bid or proposal the certificate as to non-collusion required by Section One Hundred Three (d) (103d) of the General Municipal Law as the act and deed of such corporation, and for any inaccuracies or misstatements in such certificate this corporate bidder shall be liable under the penalty of perjury.

The foregoing is a true and correct cop of the resolution by
_____
Corporation at a meeting of its Board of Directors held on the
_____day of_____, 20_____.

(SEAL OF THE CORPORATION)

_____
Secretary

1.07 ACCEPTANCE

A. When this Proposal is accepted, the undersigned agrees to enter into Contract with the Owner as provided in the Form of Agreement.

1.08 AFFIRMS

A. The undersigned affirms and agrees that this Proposal is a firm one which remains in effect and will be irrevocable for a

period of forty-five (45) days after opening of Bids.

1.09 TYPE OF BUSINESS

A. The undersigned hereby represents that it is a_____
(Corporation, Partnership, or an Individual). If a Corporation, then the undersigned further represents that it is duly qualified as a Corporation under laws of New York State and it is authorized to do business in this State.

1.10 PLACE OF BUSINESS

A. The following is the name and address of the person to whom all notices required in the connection with this Proposal may be telephoned, mailed or delivered.

_____
(Name)

_____
(Address)

_____
(Telephone)

1.11 EXECUTION OF CONTRACT

A. When written Notice of Acceptance of the Proposal is mailed or delivered to the undersigned within forty-five (45) days after the opening of Bids, or anytime thereafter should the Proposal not be withdrawn, the undersigned, within ten (10) days, will execute the Form of Agreement with the Owner.

1.12 ADDENDA

A. Any Addenda issued by the Architect and mailed or delivered to the undersigned prior to the Bid opening date shall become part of the Contract Documents. The Bidder shall enter on this list any addenda issued after this Form of Proposal has been received and shall fill in the addenda number and date.

Addendum #_____	Dated_____
Addendum #_____	Dated_____
Addendum #_____	Dated_____
Addendum #_____	Dated_____
Addendum #_____	Dated_____
Addendum #_____	Dated_____

1.13 ASBESTOS

A. The Contractor certifies that no asbestos or asbestos-containing material will be incorporated into the Work of this Contract.

(Sign Bid Here)

Dated_____, 20_____ _____
Legal Name of Person, Partnership
or Corporation

By _____

Title _____

Address _____

_____

_____

SECTION 008100 - MODIFICATIONS TO GENERAL CONDITIONS

GENERAL

A. AIA Document A232, 2019 Edition, "General Conditions of the Contract for Construction, Construction Manager as Adviser Edition", shall be considered an incorporated portion of Contract, and its provisions, unless specifically indicated to be omitted, shall determine all questions which may arise concerning adjudication of disputes or other matters covered therein having relation to Contracts between Owner and Contractor.

B. Where any Article of AIA Document A232, 2019 Edition, is modified by alteration, addition or deletion, provisions of such Article shall remain in effect. All modifications shall be considered as added thereto. Where any such Article is amended, voided or superseded thereby, provisions of such Article not so specifically amended, voided or superseded shall remain in effect. Wherever a conflict exists between the Modifications to the General Conditions and any article of AIA Document 232, 2019 the provision of these Modifications shall prevail.

C. Where provisions of "General Conditions of the Contract for Construction, Construction Manager as Adviser Edition" relate to Project administrative or work-related requirements of the Contract, those provisions (including, but not limited to, allowances, progress schedule, submittal procedure, temporary facilities, cutting and patching, record drawings and clean-up) are specified in Division 1-General Requirements if required.

ARTICLE 1 - GENERAL PROVISIONS

1.1 BASIC DEFINITIONS

(A) “Owner” (Article 2, General Conditions)

(B) "Architect" (Article 2, General Conditions) is Michael Shilale Architects, LLP, 140 Park Ave., New City, NY 10956.

(c) "General Contractor" (Article 3, General Conditions) is contractor having direct contract with Owner.

(d) "Contractor" (Article 3, General Conditions) is either General Contractor or Subcontractor having direct contract with General Contractor.

(e) "Other Contractor" is contractor having contract with Owner for work not herein specified.

(f) The Contractor shall allow the Owner or anyone employed by him, directly or indirectly, whether Union or non-Union, in the building and on the premises at all times.

(g) The term "Furnish" is used to mean "supply and deliver to the Project site, ready for unloading, unpacking, assembly, installation, and similar operations.

(h) The term "Install" is used to describe operations at Project site including the actual "unloading, unpacking, assembly, erection, placing, anchoring, applying, working to dimension, finishing, curing, protecting, cleaning, and similar operations".

A. Add the following sentence to Subparagraph 1.1.1:
   a. The Contract Documents executed or identified in accordance with Subparagraph 1.5.1 shall prevail in case of an inconsistency with subsequent versions made through manipulated electronic operations involving computers.

1.2 CORRELATION AND INTENT OF THE CONTRACT DOCUMENTS

A. Add clause 1.2.1.2 to Subparagraph 1.2.1:
1.2.1.2 In the event of conflicts or discrepancies among the contract documents, interpretations will be based on the following priorities:

1. Modifications
2. The Agreement
3. Addenda, with those of later date having precedence over those of an earlier date.
4. The supplementary conditions.
5. The General Conditions of contract for construction.
6. Division 1 of the specifications.
7. Drawings and divisions 2-33 of the specifications.
8. Other documents specifically enumerated in the agreements as part of the contract documents.

In the case of conflicts or discrepancies between drawings and divisions 2-33 of the specifications or within either document not clarified by addendum, the Architect will determine which takes precedence in accordance with Subparagraph 4.2.11, 4.2.12, and 4.2.13.

B. Add the following clause to section 1.7:
PDF files may be provided to contractor.

C. Delete section 1.8 and substitute to following:
Building Information Models will not be provided.

ARTICLE 2 - OWNER

2.3 INFORMATION AND SERVICES REQUIRED OF THE OWNER

A. Delete Subparagraph 2.3.7 and substitute the following:
2.3.7 The Contractor will be furnished, free of charge two (2) copies of drawings and Project manuals. Additional sets will be furnished at the cost of reproduction, postage and handling.

ARTICLE 3 - CONTRACTOR

3.2 REVIEW OF CONTRACT DOCUMENTS AND FIELD CONDITIONS BY CONTRACTOR

A. Add the following Subparagraph 3.2.4.1 to section 3.2.4:
3.2.4.1 The Owner is entitled to reimbursement from the Contractor for amounts paid to the Architect for evaluating and responding to the Contractor's requests for information that are not prepared in accordance with the Contract Documents to where the requested information is available to the Contractor from a careful study and comparison of the Contract Documents, field conditions, other Owner-provided information, Contractor-prepared coordination drawings, or prior Project correspondence or documentation.

3.4 LABOR AND MATERIALS

A. Add section 3.4.2.1 to section 3.4.2:
3.4.2.1 After the Contract has been executed, the Owner and Architect will consider requests for the substitution of products in place of those specified only under the conditions set forth in the General Requirements (Division 1 of the Specifications). By making requests for substitutions, the Contractor:

1. represents that the Contractor has personally investigated the proposed substitute product and determined that it is equal or superior in all respects to that specified;
2. represents that it will provide the same warranty for the substitution as it would have provided for the product specified.
3. certifies that the cost data presented is complete and includes all related costs for the substituted product and for Work that must be changed as a result of the substitution, except for the Architect's redesign costs, and waives all claims for additional costs related to the substitution that subsequently become apparent; and
4. shall coordinate the installation of the accepted substitute, making such changes as may be required for the

Work to be complete in all respects.

B. Add the following to the end of section 3.4.2:
3.4.2.2 The Owner shall be entitled to reimbursement from the Contractor for amounts paid to the Architect for reviewing the Contractor's proposed substitutions and to make agreed-upon changes in the Drawings and Specifications resulting from such substitutions.

3.6 TAXES

A. Add section 3.6.1 to section 3.6:
The Owner is a School District, and is therefore exempt from sales tax. Sales tax is not to be included in the bids. This exemption does not, however, apply to tools, machinery, equipment, or other property leased by, or to the Contractor or a subcontractor; and the Contractor and its subcontractor shall be responsible for, and pay, any and all applicable taxes, including sales and compensating use taxes, on such leased tools, machinery, equipment or other property.

3.11 DOCUMENTS AND SAMPLES AT THE SITE

A. Add subparagraph 3.11.1 as follows: "For additional requirements refer to Specification Section 017839 - PROJECT RECORD DOCUMENTS. Reference to 3.11 elsewhere in the Contract Documents shall read as referring to that section of the Specification."

3.12 SHOP DRAWINGS, PRODUCT DATA AND SAMPLES

A. Add section 3.12.11 to section 3.12:
3.12.11 The Contractor is required to provide all submittals for the Architect's review, in accordance with the submittal deadlines noted in the Contract Documents. The Architect's review of Contractor's submittals will be limited to examination of an initial submittal and one (1) resubmittal. The Owner is entitled to obtain reimbursement from the Contractor for amounts paid to the Architect for evaluation of additional resubmittals, and for evaluation of submittals received after the applicable deadline in the Contract Documents.

B. Add section 3.12.12 to section 3.12:
3.12.12 "For additional requirements refer to Specification Section 013300 – SUBMITTAL PROCEDURES. Reference to 3.12 elsewhere in the Contract Documents shall read as referring to that section of the Specification."

3.14 CUTTING AND PATCHING

A. Add subparagraph 3.14.3 as follows: "For additional requirements refer to Specification Section 024119 – SELECTIVE DEMOLITION. Reference to 3.14 elsewhere in the Contract Documents shall read as referring to that section of the Specification."

3.15 CLEANING UP

A. Add subparagraph 3.15.3 as follows: "For additional requirements refer to Specification Section 017419 - CONSTRUCTION WASTE MANAGEMENT and 017700 – CLOSEOUT PROCEDURES. Reference to 3.15 elsewhere in the Contract Documents shall read as referring to that section of the Specification."

ARTICLE 4 - ADMINISTRATION OF THE CONTRACT

4.2 ARCHITECT'S ADMINISTRATION OF THE CONTRACT

A. Add the following subparagraph 4.2.2.1:
4.2.2.1 The Owner is entitled to reimbursement from the Contractor for amounts paid to the Architect and/or the Construction Manager for site visits made necessary by the fault or neglect of the Contractor or by defects and deficiencies in the Work.

B. Add the following subparagraph 4.2.14.1:
4.2.14.1 Contractor's requests for information shall be prepared and submitted in accordance with Division 1 "General Requirements" sections on the form included in the Contract Documents [OR] on AIA Document G716-2004. The Architect will return without action requests for information that do not conform to requirements for the Contract Documents.

ARTICLE 5 - SUBCONTRACTORS

5.2 AWARD OF SUBCONTRACTORS AND OTHER CONTRACTS FOR PORTIONS OF THE WORK

A. Add section 5.2.5 to section 5.2:

5.2.5 MANUFACTURERS AND FABRICATORS

5.2.5.1 Not later than thirty (30) days after the date of commencement of the Work, the Contractor shall furnish in writing to the Owner through the Architect the names of the persons or entities proposed as manufactures or fabricators for certain products, equipment and systems identified in the General Requirements (Division 1 of the Specifications) and, where applicable, the name of the installing Subcontractor. The Architect may reply within 14 days to the Contractor in writing stating 1) whether the Owner or the Architect has reasonable objection to any such proposed person or entity or 2) that the Architect requires additional time to review. Failure of the Owner or Architect to reply within the 14 day period shall constitute notice of no reasonable objection.

5.2.5.2 The Contractor shall not contract with a proposed person or entity to whom the Owner or Architect has made reasonable and timely objection. The Contractor shall not be required to contract with anyone to whom the Contractor has made reasonable objection.

5.2.5.3 If the Owner or Architect has reasonable objection to a person or entity proposed by the Contractor, the Contractor shall propose another to whom the Owner or Architect has no reasonable objection. If the proposed but rejected manufacturer or fabricator was reasonably capable of performing the Work, the Contract Sum and Contract Time shall be increased or decreased by the difference, if any, occasioned by such change, and an appropriate Change Order shall be issued before commencement of the substitute manufacturer's or fabricator's Work. However, no increase in the Contract Sum or Contract Time shall be allowed for such change unless the Contractor has acted promptly and responsively in submitting names as required.

5.2.5.4 The Contractor shall not substitute a person or entity previously selected if the Owner or Architect makes reasonable objection to such substitution.

ARTICLE 7 - CHANGES IN THE WORK

7.1 GENERAL

A. Add the following Subparagraph 7.1.4 to Paragraph 7.1:
7.1.4 The combined overhead and profit included in the total cost to the Owner of a change in the work shall be based on the following schedule:

1. For the Contractor, for Work performed by the Contractor's own forces, 15 percent of the cost.
2. For the Contractor, for Work performed by the Contractor's Subcontractor 7 percent of the amount due to the Subcontractor.
3. For each Subcontractor involved, for work performed by that subcontractor's own forces, 7 percent of the cost.

4. for each Subcontractor, for Work performed by the Subcontractor's sub-subcontractor, 7 percent of the amount due the sub-subcontractor.
5. Cost to which overhead and profit is to be applied shall be determined in accordance with subparagraph 7.3.7.
6. In order to facilitate checking of quotations for extras or credits, all proposals, except those so minor that their propriety can be seen by inspection, shall be accompanied by a complete itemization of costs including labor, materials and Subcontracts. Labor and Materials shall be itemized in the manner prescribed above. Where major cost items are Subcontracts, they shall be itemized also. In no case will a change involving over $500.00 be approved without such itemization.

.2 CHANGE ORDERS

A. Delete Subparagraph 7.2.1 and substitute as follows:

7.2.1 A Change Order is a written instrument prepared by the Contractor and signed by the Owner, Construction Manager, Contractor, and Architect stating their agreement upon all of the following:

.1 The change in the Work;

.2 The amount of the adjustment, if any, in the Contract Sum; and

.3 The extent of the adjustment, if any, in the Contract Time.

ARTICLE 8 - TIME

8.3 DELAYS AND EXTENSIONS OF TIME

Delete paragraph 8.3.1 and substitute as follows:

"8.3.1 If the Contractor is delayed at any time in the progress of the work by such causes which the Architect determines justifies the delay, the Contract time shall be extended by Change Order for such reasonable time as the Architect may determine. The Contractor agrees to make no claim against the Owner, Construction Manager or the Architect, Architect's Consultants or Architect's Subcontractors, for damages for delay in the performance of this contract occasioned by any act or omission of the Owner or any of its representatives, or the Construction Manager, Architect, Architect's Consultants or Architect's Subcontractors, and agrees that any such claim shall be fully compensated for by an extension of time to complete performance of the work as provided herein. The delays contemplated by this paragraph include, but are not limited to, loss or damage arising out of, or related to, any unforeseen obstructions or difficulties which may be encountered during the performance of the contract, including damages which may be caused or occasioned by the contractor's reliance upon such records, reports or information furnished by the Owner, Construction Manager or Architect or Architect's Consultants or Architect's Subcontractors. An extension of time to complete performance is an equitable adjustment as contemplated by paragraph 14.3.2 of the General Conditions of the contract. When the act or omission of another contractor causes delays resulting in damage to the Contractor, the Contractor damaged thereby must proceed against the offending contractor and shall make no claim against the Owner, Construction Manager or Architect or Architect's Consultants or Architect's Subcontractors."

IT IS EMPHASIZED THAT NO MONETARY RECOVERY MAY BE OBTAINED BY THE CONTRACTOR FOR DELAY AGAINST THE OWNER, CONSTRUCTION MANAGER, OR ARCHITECT BASED ON ANY REASON AND THAT THE CONTRACTOR'S SOLE REMEDY, IF APPROPRIATE, IS ADDITIONAL TIME."

8.3.2 Delete in its entirety.

8.3.3 Delete the words "either party" in line 2 and replace with the words "the Owner."

ARTICLE 9 - PAYMENT AND COMPLETION

9.3 APPLICATION FOR PAYMENTS

A. 9.3.1 Add the following sentence to the end of Subparagraph 9.3.1:
The form of Application for Payment, duly notarized, shall be current authorized edition of AIA Document G702-1992, Application and Certificate for Payment, supported by a current authorized edition of AIA Document G703-1992, Continuation Sheet.

B. Add the following clause 9.3.1.3 to Subparagraph 9.3.1:
9.3.1.3 Until the work is ninety (90%) percent complete, the Owner shall pay ninety (90%) percent of the amount due the Contractor on the account of progress payments. At the time of Work is 90 percent complete and thereafter, the Owner shall pay ninety-five (95%) percent of the amount due to the Contractor until punch list completion, subject however to the provisions of Article 5 of AIA Document A132-2019.

9.6 To subparagraph 9.6.1 add the following:

A. "Certificates for Payment shall be issued monthly if work is progressing satisfactorily and if application for payment has been submitted

9.8 SUBSTANTIAL COMPLETION

A. Add section 9.8.3.1 after 9.8.3
9.8.3.1 The Architect will perform no more than one (1) inspection to determine whether the Work or a designated portion thereof has attained Substantial Completion in accordance with the Contract Documents. The Owner is entitled to reimbursement from the Contractor for amounts paid to the Architect for any additional inspections.

B. Add to section 9.8.5: In no event shall the outstanding amount be less than two hundred (200%) percent of the value of the incomplete Work and unsettled claims.

9.10 FINAL COMPLETION AND FINAL PAYMENT

A. Add the following section 9.10.1.1 to section 9.10.1:
9.10.1.1 The Architect will perform no more than one (1) inspection to determine whether the Work or a designated portion thereof has attained Final Completion in accordance with the Contract Documents. The Owner is entitled to reimbursement from the Contractor for amounts paid to the Architect for any additional inspections.

B. To subparagraph 9.10.2 add the following: "Upon demand by the Owner, Contractor shall provide and file bond for discharge of any lien, as required by Lien Law, State of New York, Section 21, Paragraph 5."

ARTICLE 10 - PROTECTION OF PERSONS AND PROPERTY

A. No Modifications

ARTICLE 12 – UNCOVERING AND CORRECTION OF WORK

A. No Modifications

ARTICLE 15 – CLAIMS AND DISPUTES

A. Add the following Sections 15.1.6.3 and 15.1.6.4 to Section 15.1.6:

15.1.6.3 Claims for increase in the Contract Time shall set forth in detail the circumstances that form the basis for the Claim, the date upon which each cause of delay began to affect the progress of the Work, the date upon which each cause of delay ceased to affect the progress of the Work and the number of days' increase in the Contract Time claimed as a consequence of each such cause of delay. The Contractor shall provide such supporting documentation as the Owner may require including, where appropriate, a revised construction schedule indication all the activities affected by the circumstances forming the basis of the Claim.

15.1.6.4. The Contractor shall not be entitled to a separate increase in the Contact Time for each one of the number of causes of delay which may have concurrent or interrelated effects on the progress of the Work, or for concurrent delays due to the fault of the Contractor.

END OF SECTION 008100

SECTION 016400 - OWNER FURNISHED PRODUCTS

PART 1 - GENERAL

1.1 RELATED DOCUMENTS

A. Construction Drawings, Technical Specifications, Addenda, and general provisions of the Contract, including Contract General Conditions and Supplementary General Conditions and other Division 1 Specification Sections, apply to this Section.

1.2 SECTION INCLUDES

A. Requirements for installing Owner-furnished products, including providing miscellaneous items and accessories for a complete, functioning installation.

1.3 RELATED SECTIONS

A. Section 015800 - Project Identification and Signage: Owner-furnished, Contractor-installed (OFCI) temporary signage.

1.4 PRODUCT HANDLING

A. Protection: Contractor shall use means necessary to protect the materials of this Section before, during, and after installation and to protect completed Work, including products installed by others.

B. Replacements: In the event of damage, Contractor shall immediately repair all damaged and defective Work to satisfaction of Owner's Representative, at no change in Contract Time and Contract Sum.

PART 2 - PRODUCTS

2.1 OWNER-FURNISHED/CONTRACTOR-INSTALLED (OFCI) PRODUCTS

A. Products Identified with Contractor Responsibility for Installation:

1. Contractor shall verify mounting and utility requirements for accepted products.

2. Contractor shall provide mounting and utility rough-ins for OFCI products.
   a. Rough-in locations, sizes, capacities and similar type shall be as indicated and required by product manufacturers.
   b. If the Owner substitutes items similar to those scheduled there shall be no change in rough-in cost, unless substitution occurs after rough-in has been completed or rough-in involves other mounting requirements, utilities of different capacity than those required by item originally specified.

3. For items Designated to Be Owner- or Vendor-Furnished: Owner or its vendor will furnish manufacturer's literature or information, shop drawings, or appropriate information for preparing required shop drawings.

B. Installation Instructions: Approved manufacturer's printed descriptions, specifications and recommendations shall govern the Work, unless specifically indicated otherwise.

C. Electrical Components: Contractor shall comply with requirements specified in Division 26 - Electrical, including National Electrical Code (NEC).

D. Plumbing and HVAC Components: Contractor shall comply with requirements specified in Division 22 – Plumbing and Division 23 – HVAC.

2.2 OWNER-FURNISHED/CONTRACTOR-INSTALLED PRODUCT REQUIREMENTS

A. Products Furnished by Owner and Installed by Contractor:

1. Contractor shall coordinate delivery of OFCI products. Owner will furnish products to coincide with construction schedule.

2. Owner will:
   a. Furnish standard integral components of products.
   b. Deliver products to site. Contractor shall assist Owner in offloading products.

3. The Contractor shall:
   a. Receive products at site and give written receipt for product at time of delivery, noting visible defects and omissions; if such declaration is not given, the Contractor shall assume responsibility for such defects and omissions.
   b. Store products until ready for installation and protect from loss and damage.
   c. Uncrate, assemble and set products in place.
   d. Install products in accordance with manufacturer's recommendations, instructions and shop drawings under supervision of manufacturer's representative where specified, supplying labor and material required and making mechanical, plumbing and electrical connections necessary to operate equipment.
   e. Where so specified, installation shall be only by installer approved by manufacturer. If known, approved installer is identified on the Drawings or in the Specifications.
   f. Provide and install backing for all products weighing 20 pounds or more.
   g. Treat all Owner or Vendor supplied products with the same care as all Contractor furnished items.

B. Products Furnished and Installed by Owner:

1. Contractor prepare; vendor install:
   a. General: Contractor shall coordinate deliveries of vendor-supplied products. Vendor will furnish products to coincide with the construction schedule.
   b. Vendor will:
      1) Furnish standard integral components of products.
      2) Deliver products to site.
      3) Make connections to roughed-in utilities.
   c. Contractor shall:
      1) Receive products at site and give written notice of receipt of each product at time of delivery, noting visible defects.

2) Provide rough-in of utility products in accordance with manufacturer's recommendations, instructions and shop drawings under supervision of the manufacturer's representative where specified.
3) Provide and install backing for all products weighing 20 pounds or more.

PART 3 - EXECUTION

3.1 SURFACE CONDITIONS

A. Inspection:

1. Prior to commencing Work, Contractor shall verify that Work specified in other Sections has been properly completed and installed as specified to allow for installation of all materials and methods required of this Section.

2. Contractor shall verify that new and existing products and conditions are satisfactory for installation or relocation of OFCI products. If unsatisfactory conditions exist, do not commence the installation until such conditions have been corrected.

B. Discrepancies:

1. In the event of discrepancy, Contractor shall immediately notify the Owner's Representative.

2. Contractor shall not proceed with installation in areas of discrepancy until all such discrepancies have been resolved.

3.2 INSTALLATION

A. Contractor shall relocate and reinstall existing products in accordance with Contract Documents and reviewed shop drawings, original manufacturer's instructions and recommendations if applicable and as directed.

B. Contractor shall install Owner-furnished products in accordance with reviewed shop drawings and manufacturer's printed instructions, as applicable.

3.3 ADJUSTING AND CLEANING

A. Contractor shall adjust products as necessary and as directed by Owner's Representative.

B. Contractor shall clean all new and relocated OFCI products.

C. Contractor shall protect OFCI products from damage until Contract Completion.

3.4 LIST OF OWNER FURNISHED PRODUCTS

a. Athletic Field
- ~~Athletic Field~~ – to be furnished by the Site Contractor
- ~~Athletic Field Lighting (MUSCO)~~ – to be furnished by the Site Contractor
- ~~Signage Light Poles~~ – to be furnished by the Site Contractor

b. Concessions/Press Box
   - Signage on Concession Building
   - Banner Signage on Ramp/Grandstands

c. Weight/Locker Room
   - New Sports floor and column pads
   - Weight Room Equipment
   - Exterior Sign
   - Gym Sound System
   - 24 Linear Feet of New Storage Units in Locker Room
   - Both DOAS units Pre-Purchase

d. RTU'S
   - All RTU's Pre-Purchase

e. Field House - None

END OF SECTION

SECTION 237313 - AIR HANDLING UNITS

PART 1 - GENERAL

1.01 RELATED DOCUMENTS

A. Drawings and general provisions of the Contract, including General and Supplementary Conditions and Division 1 Specification Sections, apply to this Section.

1.02 RELATED WORK SPECIFIED ELSEWHERE

Vibration Isolation: Section 230550
Wiring of Mechanical Equipment: Section 230512
Motor Controls: Section 230512

1.03 SUBMITTALS

A. Product Data: Manufacturer's catalog sheets, brochures, performance charts, standard schematic drawings, specifications and installation instructions for each type of unit specified.

B. Contract Closeout Submittals:

1. Operation and Maintenance Data: Submit 2 copies to the Engineer, incorporated within maintenance manuals, covering the installed products.

1.04 QUALITY ASSURANCE

A. Requirements of Regulatory Agencies: Fan ratings shall be approved by the AMCA. In lieu of an AMCA approved fan rating for the fan section of the unit, the Engineer may accept the fan manufacturer's certified rating, provided this fan manufacturer has AMCA approved ratings on his regularly manufactured centrifugal fans.

B. Source Quality Control: Factory test units in accordance with AMCA Standard 210 "Test Code for Air Moving Devices" and ARI Standard 410 "Standard for Forced Circulation Air Cooling and Air Heating Coils".

C. The design indicated on the schedules and shown on the drawings is based upon the products of the named manufacturer. Alternate equipment manufacturers are acceptable if equipment meets scheduled performance requirements and dimensional requirements.

D. If equipment is supplied by a manufacturer other than the one named, coordinate with the General Contractor and affected subcontractors to ensure the specified performance is met. This coordination shall include (but is not limited to) the following:
   1. Structural supports for units
   2. Size and location of concrete bases/housekeeping pads
   3. Location of roof curbs, unit supports and roof penetrations
   4. Ductwork sizes and connection locations
   5. Piping size and connection/header locations
   6. Interference with existing or planned ductwork, piping and wiring
   7. Electrical power requirements and wire/conduit and over current protection sizes.
   8. Trap height requirements

E. The Mechanical Contractor shall be responsible for costs incurred by the General Contractor, Subcontractors, and Consulting Engineers to accommodate units furnished by a manufacturer other than manufacturer named as basis of design.

1.05 REFERENCES

A. AMCA 99 – Standard Handbook
B. AMCA 210 – Laboratory Methods of Testing Fans for Rating Purposes
C. AMCA 500 – Test Methods for Louvers, Dampers, and Shutters
D. AMCA 611-95 – Methods of Testing Airflow Measurement Stations for Rating
E. ANSI/AFBMA 9 – Load Ratings and Fatigue Life for Ball Bearings
F. ANSI/UL 900 – Test Performance of Air Filter Units
G. ARI 260 – Sound Rating of Ducted Air Moving and Conditioning Equipment
H. ARI 410 – Forced-Circulation Air Cooling and Air Heating Coils
I. ARI 430 – Testing and Rating of Central-Station Air Handling Units
J. ASHRAE 52.1/52.2 – Method of Testing General Ventilation Air Cleaning Devices for Removal Efficiency by Particle Size
K. ASHRAE 62 – Ventilation for Acceptable Indoor Air Quality
L. ASHRAE 90.1 – Energy Standard for Buildings Except Low-Rise Residential Buildings
M. ASTM-C 1338 – Standard Test Method for Determining Fungi Resistance of Insulation Material and Facings.
N. NFPA 70 – National Electric Code (conductors, equipment and raceways)
O. NFPA 90A – Installation of Air Conditioning and Ventilation Systems
P. SMACNA – HVAC Duct Construction Standards
Q. UL-181 – Mold Growth and Humidity Test
R. UL-1995 – Standard for Safety for Heating and Cooling Equipment

1.06 DELIVERY, STORAGE AND HANDLING

A. Follow manufacturer's recommendations for handling, unloading and storage.

B. Protect, pack, and secure loose-shipped items within the air-handling units. Include detailed packing list of loose-shipped items, including illustrations and instructions for application.

C. Protect, pack and secure controls devices, motor control devices and other electronic equipment. Do not store electronic equipment in wet or damp areas even when they are sealed and secured.

D. Seal openings to protect against damage during shipping, handling and storage.

E. Provide shrink-wrap around unpainted units. The membrane shall cover entire AHU during shipping and storage. Cover equipment, regardless of size or shape. Tarping is not acceptable.

F. Shrink-wrap equipment, including electrical components, for protection against rain, snow, wind, dirt, sun fading, road salt/chemicals, rust and corrosion. Keep equipment clean and dry.

G. Tarp painted units to protect against rain and road debris during shipping.

H. Clearly mark AHU sections with unit tag number, segment sequence number, and direction of airflow. Securely affix safety-warning labels.

1.07 EXTRA MATERIALS

A. Provide one set of filters for balancing, and one additional set for final turnover to owner.

B. Provide one extra set of belts, in addition to the factory-installed set.

1.08 WARRANTY

A. Provide warranty for 18 months from date of shipment. Warranty shall cover manufacturer defects. Warranty shall include labor for 12 months from date of shipment. Warranty work shall be performed by manufacturer's factory-trained and factory-employed technician. Service technician must be based within 50 miles of job site.

B. Include factory-provided controls in the parts and labor warranties.

C. Parts associated with routine maintenance, such as belts and air filters shall be excluded.

1.09 SYSTEM STARTUP

A. Do not operate units for any purpose, temporary or permanent, until ductwork is clean, filters are in place, bearings lubricated, and fan has been test run under observation.

B. Comply with manufacturer's start-up requirements to ensure safe and correct operation and integrity of warranty.

PART 2 - PRODUCTS

2.01 ACCEPTABLE MANUFACTURERS

Trane Co.
McQuay
Carrier
AAON
Daikin
York
Or Approved Equal

2.02 GENERAL DESCRIPTION

A. Air Handling Unit (AHU) consists of a structural base, insulated casing, access doors, fans, motors, motor controls, coils, filters, dampers, controls, components, and accessories; as shown on drawings, schedules, and specifications.

B. Provide AHU to meet the specified levels of performance for scheduled items including airflow, static pressure, cooling capacity, heating capacity, electrical characteristics, sound, casing leakage, panel deflection and casing thermal performance.

C. AHU shall maintain structural integrity when wall panels are removed.

D. Provide internal components and accessories as specified and scheduled. Components and accessories shall be installed by the AHU manufacturer in an ISO- 9002 certified facility.

E. Ship units in one piece. Split units only where necessary for shipping and installation.

F. Manufacturer shall provide detailed, step-by-step instructions for disassembly and reassembly.

G. For AHU segments that must be broken down for rigging and installation: segment shall be disassembled and reassembled by manufacturer's factory-trained service personnel.

H. Manufacturer shall perform a field leakage test to confirm 1% leakage per section 2.25.

I. Manufacturer shall provide a written statement confirming that the unit is built to the manufacturer's factory standards and that the unit will carry the full warranty.

2.03 MATERIALS

A. Sheet Metal:

1. Galvanized Sheet Steel: Zinc coated carbon steel, commercial quality-ASTM A527-67, mill phosphatized. Galvanizing: ASTM A525-67, commercial coating class 1.25 oz. per sq. ft.
2. Cold Rolled Steel: Carbon steel, commercial quality-ASTM A366-66T. Sheet steel shall be de-greased, cleaned and phosphatized in the factory of the manufacturer, or mill phosphatized.

2.04 AIR HANDLING UNITS

A. General Design: Provide units of sectional construction each consisting of a fan section, coil section, multizone damper section, filter section, filter/mixing box section and accessories, as indicated.

B. Casing: Fabricate exterior wall panels from a minimum of No. 18 USS gage sheet steel with interior wall panels of minimum 20 gage sheet steel, properly reinforced and braced for maximum rigidity, with supporting steel framework as required. Closed cell foam gasketing shall be used where modules join. Furnish easily removable panels and inspection doors for access to all internal parts. Fabricate inspection doors from minimum No. 18 USS gage sheet steel, with the edges of all doors and removable panels formed for rigidity. Thermally insulate the casing with a factory installed, minimum 1" thick fibrous glass liner between the exterior and interior wall panel. With the exception of perforated wall panels there shall be no insulation exposed to the airstream.

1. Provide double wall AHU casing. Gage: Double Wall Exterior: Minimum No. 18 USS sheet steel. Finish: Powdered Aluminum. Contractor to coordinate with Architect and Owner regarding finish type and color for the AHU casing. Exposed insulation is not acceptable.

2. Panel assembly shall meet UL standard 1995 for fire safety. Panel assembly shall comply with the requirements of NFPA 90A.

3. Provide an insulation system that is resistant to mold growth in accordance with a standardized test method such as UL 181 or ASTM C 1338.

4. Encapsulate insulation with sheet metal so that air does not contact insulation. Panels insulated with fiberglass shall be sealed at each corner and around their entire perimeter, to eliminate airflow through the panel and to eliminate microbial growth potential within the casing wall.

5. Unit Insulation should be a minimum as follows. Double Wall: Minimum 2 inch thick insulation material. Insulation minimum 1-1/2 pound density.

6. Provide casing with minimum thermal resistance (R-value) of 12 hr-ft2-°F/ BTU.

7. Roof, wall, floor, and access door panels shall be galvanized or stainless steel, min. No. 18 USS stainless steel.

8. Provide perforated liner in the fan section and other sections as shown on the drawings. The perforated panel shall enclose matte-faced fiberglass insulation.

9. Provide a unit frame of galvanized steel that provides the overall structure of the unit and does not rely on the casing panels for structural integrity. Insulate frame in the same manner as panels, roof, and floors.

10. Provide AHU casing that leaks no more than 1% of design airflow at +/-8" w.g.

11. Provide wall panels and access doors that deflect no more than L/240 when subjected to +/- 8" w.g. 'L' is the panel-span length and 'L/240' is the deflection at panel midpoint.

12. Provide floors and roofs that deflects no more than L/240 when subjected to a 300 lb load at mid-span. 'L' is the panel-span length and 'L/240' is the deflection at panel midpoint. M. Provide outdoor AHUs with a roof system that deflects no more than L/240 when subjected to a snow load of 30 lb/ft2. 'L' is defined as the panel-span length and 'L/240' is the deflection at the panel midpoint.

13. Provide outdoor AHUs with a roof sloped at a minimum pitch of 1/4" per foot. The roof shall overhang side and end panels by a minimum of 2".

C. Fan Section: Furnish fans of the double width, double inlet, forward curved, multi-blade centrifugal type, designed for low operating speeds. Fabricate fan housing utilizing lock seam construction to ensure rigidity and render it mechanically airtight. Provide streamlined fan inlets, with all fan outlet areas proportioned to wheel size, according to AMCA standards. Provide shaft bearings of the grease packed ball or sleeve type, sealed in self-aligning pillow blocks. Bearings shall be equipped with grease lines allowing for lubrication from one side of the fan. Factory coat fan shaft with a corrosion preventative compound. Mount unit motor internally, complete with adjustable base, adjustable V-belt drive and an approved belt guard. Fan and motor shall be internally isolated from unit casing with spring isolators, furnished and installed by the unit manufacturer. Statically and dynamically balance and test fan assembly at factory.

1. Provide double width double inlet (DWDI) housed fans, multi-blade centrifugal type or single width single inlet (SWSI) plenum fans as equipment schedule and

drawings.

2. Airfoil fans shall comply with AMCA standard 99 2408 69 and 99 2401 82. Provide an AMCA Seal on airfoil fans. Airfoil fan performance shall be based on tests made in accordance with AMCA standards 210 and comply with the requirements of the AMCA certified ratings program for air performance.
3. Provide fans with true airfoil blades unless otherwise scheduled.
4. Provide fans with the following accessories:
   a. Fan inlet screens in the inlets of fan housing (REQUIRED on SWSI plenum fans)
   b. Access door inlet screen (on AHU casing)
   c. OSHA-compliant belt guard enclosing the fan motor and drive.
5. Provide airfoil fans with blades formed of extruded aluminum, as scheduled. Bent sheet metal blades are not acceptable.
6. Provide an access door in the fan scroll, as shown on drawings.
7. Provide fans with polished steel shafts with first critical shaft speed at least 125% of the maximum operating speed for the fan pressure class. Shaft shall have an anti-corrosion coating.
8. Provide fan motor on an adjustable base to allow adjustable and consistent belt tension.
9. Mount the fan and motor assembly on a common adjustable base. This common base shall attach to vibration isolators, which mount to structural support channels. These channels shall span the AHU floor and mount directly to the AHU frame. Manufacturers not complying with this requirement must submit detailed structural and weight data to a licensed structural engineer for review and stamped certification. The mechanical engineer shall review these engineers' final reports prior to submittal approval.
10. The fan and motor assembly shall be internally isolated from the unit casing. Provide vibration isolation springs with 1" or 2" static deflection. Internally Mounted: Spring isolators by manufacturer. The isolation system shall be designed to resist loads produced by external forces, such as earthquakes, and conform to the current IBC seismic requirements.
11. Connect DWDI fans to the unit casing or bulkheads with canvas flexible connection.
12. Provide horizontal thrust restraints between AHU casing and fan housings with end discharge. This requirement applies to the following cases:
    a. SWSI fans operating at greater than 3" of total static pressure
    b. DWDI airfoil fans operating at greater than 6" of total static pressure
    c. DWDI airfoil fans operating at greater than 3" of total static pressure

D. Coil Section: Support heating coils from unit casing, as required and approved. Design coils with built-in-pitch between headers, or pitch coils inside casings to permit drainage, with connections located where indicated. Provide coils with adequate gasketing or safing to prevent air by-pass between coil channels, finned surfaces and casing. Fabricate coils of seamless copper, with aluminum flat plate fins with formed collars permanently bonded to the tubes by mechanical expansion of the tubes, or equivalent method as approved. Design encased coil banks, so as to permit the removal of any individual coil, without disturbing other coils in the bank. Coil extensions shall pass through ends of casing and shall be air and water tight. Design coils for use with steam or water for a minimum working pressure of 200 psig WSP, 200 psig OWG and factory test at 200 psig air under water.

E. Additional Coil Requirements:

1. Coils shall meet or exceed performance scheduled on drawings. When applicable, Provide coils with performance certified in accordance with AHRI Standard 410 for coil capacity and pressure drop. Circuit coils such that the fluid velocity is within the range of certified rating conditions at design flow.
2. Provide cooling coils with a maximum face velocity of 550 fpm or 500 fpm or 450 fpm. Face velocity calculations shall be based on the finned area of the coil.
3. Provide cooling coil drain pan that is sufficient to contain coil condensate.
4. Provide coil segment casing to accommodate full-face or reduced-face coils as scheduled. Provide face and bypass coil segments with factory installed bypass damper.
5. Provide at least 18” or 24” or 30” of access between coils. Provide an easily operable access panel or door, as shown on drawings.
6. Provide coil segment casing that meets or exceeds casing performance of the unit.
7. Provide panels that are easily removable with no special tools.
8. Locate access doors to provide clearance for pipe insulation, connectors, and accessories. Space shall allow a minimum of 90 degrees of door swing.
9. Provide coils built in their own full perimeter frame. Tube sheets on each end shall have fully drawn collars to support and protect tubes. Horizontal coil casing and support members shall allow moisture to drain. Casing and support members shall not block finned area.
10. Provide a single intermediate vertical coil support on coils with a finned length greater than 62”. Provide two vertical supports on coils with a finned length greater than 100”, and three vertical supports on coils with a finned length greater than 141”.
11. Extend coil connections through AHU casing. Provide a 1/4” FPT plugged vent/drain tap on each connection. Circuiting shall allow complete draining and venting when installed. Vent and drain connections shall be on the coil connection extension outside of the unit casing.
12. Insulate gap between coil stub out connection and AHU casing with a spool-shaped sleeve grommet. Adhesive rings applied the casing walls are not acceptable.
13. Water and glycol coils shall be operable at 250 psig working pressure and up to 300° F. Factory test water and glycol coils with 200 psig compressed air under water.
14. Provide coils with a tube OD of 5/8” or 1/2”. Mechanically expand tubes to form fi n bond and provide burnished, work-hardened interior surface. Tubes shall have a minimum tube wall thickness of 0.020” or 0.025” or 0.035” or 0.049” for 5/8” tubes, and 0.016” or 0.020” or 0.032” for 1/2” tubes.
15. Provide coils with copper tube return bends with the following final minimum thicknesses: 1. 0.035” for 5/8” diameter tubes 2. 0 .032” for 1/2” diameter tubes with 0.020” or 0.032” tube wall thicknesses 3. 0.020” for 1/2” diameter tubes with 0.016” tube wall thickness.
16. Provide water, glycol coil headers made of seamless copper or brass tubing. Pipe connections shall be steel or red brass. Header connections (tubes and piping connections) shall be silver-brazed or TIG welded.
17. Provide coils with die-formed, continuous aluminum or copper fins. Fins shall have fully drawn collars to accurately space fins and protect tubes. Fins shall be 0.006” or 0.008 or 0.01” thick.

F. Drain Pans
1. Provide drain pans that comply with requirements for the AHU casing.
2. Comply with the stated intent of ASHRAE Standard 62.

3. Provide a drain pan under each cooling coil. Drain pans for cooling coils shall meet the requirements of ASHRAE 62.
4. Provide drain connection made of same material as drain pan. Do not use dissimilar metals because of the risk of galvanic corrosion. Weld connection to the drain pan.
5. Drain pan shall be insulated double wall galvanized steel construction with an R-value of 12 hr-ft2-°F/BTU. The entire area of the drain pan shall have this level of thermal performance.
6. Insulate plumbing associated with drain pan drains and connections.
7. Provide drain pan under the complete width and length of cooling coil section.
8. Drain pan shall allow visual inspection and provide inspection door for physical cleaning on 100% of the pan surface with or without removal of the coil.
9. Provide a minimum of 1" clearance between the drain pan and any coil casing, coil support or any other obstruction.
10. Provide drain pan that allows the design rate of condensate drainage regardless of fan status.
11. Provide drain pan sloped by at least 1/8" per foot toward a single drain. Locate drain connection at the lowest point of the pan. Pan shall have no horizontal surfaces.

G. Filter / Mixing Box Section: Furnish combined air filtering and mixing functions in one standard section. Filter section shall include angled 2" pleated throwaway filters rated for 30% efficiency on ASHRAE Standard 52-76. Filters shall be accessible from both sides through hinged access doors. Mixing box shall include integral, parallel blade interconnected, outdoor and return low leakage air dampers. Dampers shall be insulated with thermally broken frame and shall have stainless steel or compressible edge seals and vinyl blade edge seals for a maximum leakage rating of 4.1 cfm per sq.ft. of face area at 4" water gauge differential static pressure. Blades shall rotate on nylon bearings; Tamco Series 9000 BF or acceptable equal.

1. Provide filter segment and filters for each AHU, see Section 234100 - AIR FILTERS.

H. Damper Section: Damper section is to be designed as a single assembly with airfoil type blades. Dampers shall have compressible jamb seals and extruded vinyl blade seals with leakage ratings of less than nine cfm/sq. ft. at one-inch w.g. Dampers shall rotate on stainless steel bearings.

1. Provide dampers tested in accordance with AMCA 500.

2. Provide factory-installed dampers, as per manufacturer. Dampers shall modulate the volume of the outdoor, return, or exhaust air.

3. Dampers shall have double skin airfoil blades, extruded vinyl edge seals on all blades, and flexible metal compressible jamb seals. Blades shall rotate on stainless steel sleeve bearings.

4. Dampers shall have a maximum leakage rate of 3 CFM/square foot at 1" w.g., and shall comply with ASHRAE 90.1.

5. Damper blades shall be parallel or opposed blade configuration, as per manufacturer.

6. Damper blades shall be galvanized steel or aluminum.

I. Electrical Motors
   1. Provide fan motors built in accordance with the latest standards of the NEMA and IEEE.
   2. Provide AHU and fan motors in compliance with the latest NYS Energy Conservation Code or ASHRAE 90.1.
   3. Provide fan motors with the following characteristics:
      a. 60 hertz, 1750 rpm operation
      b. Service factor of 1.15
      c. Premium efficiency, or as required to meet ASHRAE 90.1
      d. NEMA design ball bearing type
      e. Rated for continuous duty at full load in a 104°F (40°C) ambient
      f. Open drip proof (ODP) or totally enclosed, fan cooled (TEFC) as scheduled

PART 3 - EXECUTION

3.01 INSTALLATION

A. Install units of type as indicated, in complete accordance with the manufacturer's instructions and as indicated.

A. Install the Work of this Section in accordance with the manufacturer’s printed instructions.

B. Do not use AHUs for temporary heating, cooling or ventilation prior to complete inspection and startup performed per this specification.

C. Install AHUs on existing roof curb and adapter curb as per manufacturer’s instructions.

D. Install AHUs with manufacturer’s recommended clearances for access, coil pull, and fan removal. Clearances shall be maintained around all components so as to permit inspection, servicing, repair, replacement and visibility of all gauges. When units are installed or replaced, clearance shall be provided to allow access for inspection, maintenance and repair. Passageways around all sides of the units shall have an unobstructed width as required by the manufacturer.

E. Provide one complete set of filters for testing, balancing, and commissioning. Provide second complete set of filters at time of transfer to owner.

F. Install AHU plumb and level. Connect piping and ductwork according to manufacturer’s instructions. Provide all piping and electrical connections to units through knock-out openings in bottom of units.

G. Unless otherwise shown or specified, install the Work of this Section in accordance with the manufacturer's printed installation instructions.

3.02 FIELD QUALITY CONTROL

A. Rig and lift units according to manufacturer's instructions. Contractor is responsible to pay all permits and costs related to rigging. Contractor is to follow all safety protocols.

3.03 AHU INSPECTION

A. The following items shall be inspected prior to startup of unit. Manufacturer representative may be present to ensure installation of AHU is installed properly.
   1. Damage of any kind
   2. Level installation of unit
   3. Proper reassembly and sealing of unit segments as shipping splits.
   4. Tight seal around perimeter of unit at the roof curb/adapter curb.
   5. Installation of shipped-loose parts, including filters, air hoods, bird screens and mist eliminators, if applicable.
   6. Completion and tightness of electrical, ductwork and piping connections.
   7. Tight seals around wiring, conduit and piping penetrations through AHU casing.
   8. Supply of electricity from the building's permanent source.
   9. Integrity of condensate trap for positive or negative pressure operation.
   10. Condensate traps charged with water.
   11. Removal of shipping bolts and shipping restraints.
   12. Tightness and full motion range of damper linkages.
   13. Complete installation of BMS/control system including end devices and wiring.
   14. Cleanliness of AHU interior and connecting ductwork
   15. Proper service and access clearances
   16. Proper installation of filters
   17. Filter gauge set to zero

B. The following inspection shall be completed to confirm the AHU fan assembly is installed properly.
   1. Fan isolation base and thrust restraint alignment
   2. Tight set screws on pulleys, bearings and fan
   3. Tight fan bearing bolts
   4. Tight fan and motor sheaves
   5. Tight motor base and mounting bolts
   6. Blower wheel tight and aligned to fan shaft
   7. Sheave alignment and belt tension
   8. Fan discharge alignment with discharge opening
   9. Fan bearing lubrication
   10. Free rotation of moving components (rotate manually)

3.04 STARTUP SERVICE AND OWNER TRAINING

A. Manufacturer's factory-trained and factory-employed service technician shall startup AHUs. Contractor shall submit signed functional performance testing affidavit signed by the factory authorized service representative indicating that all of the manufacturer's functional performance tests have been successfully completed. Technician shall perform the following steps as a minimum:
   1. Energize the unit disconnect switch
   2. Verify correct voltage, phases and cycles
   3. Energize fan motor briefly ("bump") and verify correct direction of rotation.
   4. Re-check damper operation; verify that unit cannot and will not operate with all dampers in the closed position.

5. Energize fan motors and verify that motor FLA is within manufacturer's tolerance of nameplate FLA for each phase.

B. Provide a minimum of 4 hours of training for owner's personnel by manufacturer's factory-trained and factory-employed service technician. Training shall include AHU controls, motor starter, VFD, and AHU.

C. Training shall include startup and shutdown procedures as well as regular operation and maintenance requirements.

D. Submit a startup report summarizing any problems found and remedies performed. The Contractor shall conduct interdisciplinary pre-start up and start up tests as per the manufacturer's start up procedures. Contractor shall submit signed start up affidavit signed by the factory authorized service representative indicating that all of the manufacturer's pre-start up and start up procedures have been successfully completed.

3.05 FIELD PERFORMANCE VERIFICATION

A. Leakage: Pressurize casing to +/-8" w.g. and measure leakage. Pressurize casing to –8"w.g. and measure leakage. If leakage exceeds 1% of design airflow, seal leakage points with a permanent solution. Repeat test. If the AHU still does not pass, contact the manufacturer to seal unit.

B. Submit a field test report with testing data recorded. Include description of corrective actions taken

3.06 CLEANING

A. Clean unit interior prior to operating. Remove tools, debris, dust and dirt.

B. Clean exterior prior to transfer to owner

3.07 DOCUMENTATION

A. Provide Installation, Operation & Maintenance Manuals in the supply fan section of each unit. Provide six additional copies for owner's project system manual.

B. Provide six copies of Spare Parts Manual for owner's project system manual

3.08 COMMISSIONING OF PACKAGED HEATING AND COOLING UNITS

A. HVAC Contractor shall comply with the Commissioning Requirements for packaged heating and cooling units.

B. All testing for refrigerant piping shall be completed prior to commencement of the commissioning process.

APPENDIX

ADDITIONAL MULTI-ZONE SPECIFICATIONS

The zoning microprocessor controllers shall monitor zone temperature setpoints, zone temperatures, zone temperature rates of change, and actual zone damper positions. The controllers shall then position the dampers for proper airflow to maintain the current zone temperature setpoints. Airflow is controlled within software adjustable minimum and maximum damper position setpoints. System airflows will be pressure dependent. The Unit will control to a field adjustable cooling setpoint. Controllers shall have provisions for controlling supplemental or perimeter heat. The system controller shall scan all zones and thermostats to determine deviation from setpoint, time of deviation, and the number of zones requiring a temperature adjustment. Based on this information, the zone control dampers will be opened or closed and the zoned heat will be enabled or disabled (if installed). The system controller shall also monitor discharge air pressure and control a variable frequency drive to maintain appropriate system pressures.

Dampers

The zone dampers shall be extruded aluminum airfoil construction with blade edge and jam seals and the bypass damper (if used) will include steel construction with interlocking frame design and blade seals.

Base Cabinet

The zoning section is constructed of 16 gauge galvanized steel and 1.5" square tubing and is painted with standard Trane slate gray paint.

Actuators

Actuators controlling the zone dampers will be Belimo DDC actuators with a floating point input.

Lifting Lugs

Lifting lugs will be provided on the zoning base. The lifting lugs are designed and built to lift the whole unit as one piece.

Base Insulation

The zoning section has double wall positively latching doors and is insulated with 1.5" foil face insulation.
All seams are sealed with foil tape.

Zone Sensors

Wall mounted thermostat with external adjustable set point, night setback, communication jack, and on/cancel buttons. One sensor supplied for each zone.

Power Wiring

Power will need to be run to the disconnect switch located in the unit's power panel. This unit is single point power.

Hot Water Zone Heat NOT USED

ADAPTOR CURB SPECIFICATIONS

Pre-fabricated rooftop adapters to be manufactured of prime galvanized steel construction, 18 or 14 gauge or as required, meeting ASTM A653/653M with welded corners and with seams joined by continuous water and air tight welds. Adapters shall be insulated and internally reinforced with internally supports, and include necessary block off panel to allow use of existing ductwork.
Installer to field verify all existing roof units to insure proper fit between existing roof top equipment base to new rooftop unit, unless the awarded adapter curb manufacturer representative performs the field survey.

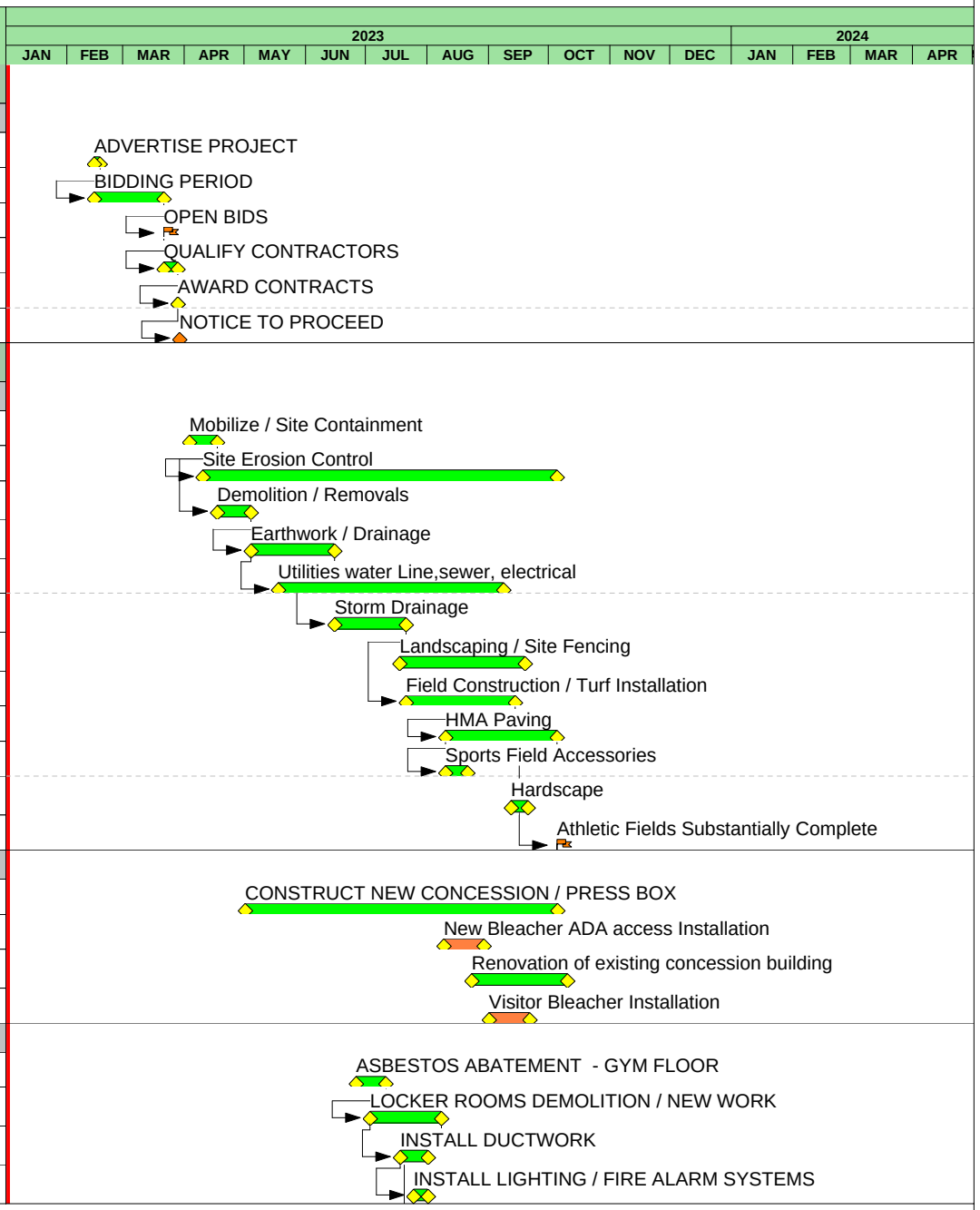
- Heavy gauge Prime G-90 galvanized steel 18 to 14 gauge meeting ASTM A653/653M

- Fully welded and mitered corners
- 1 1/2” thick 3-pound density rigid insulation
- Integral counter flashing for weather tightness
- Adapters are internally supported with cross channel supports on center
- Wood nailer optional if additional roofing is required

END OF SECTION 237313

NORTH ROCKLAND CSD PHASE 1 CAPITAL PROJECT

Activity ID	Description	Original Duration	Early Start	Early Finish
BIDDING PHASE I				
3100	ADVERTISE PROJECT	3d	14FEB23 *	17FEB23
3200	BIDDING PERIOD	25d	14FEB23 *	21MAR23
3300	OPEN BIDS	0		21MAR23
3400	QUALIFY CONTRACTORS	5d	21MAR23	28MAR23
3500	AWARD CONTRACTS	0	28MAR23	28MAR23
3600	NOTICE TO PROCEED	0	29MAR23	
CONSTRUCTION DURATION / PHASING				
SITE - ATHLETIC FIELDS				
4000	Mobilize / Site Containment	10d	03APR23 *	17APR23
4020	Site Erosion Control	127d	10APR23 *	05OCT23
4005	Demolition / Removals	13d	17APR23	04MAY23
4010	Earthwork / Drainage	30d	04MAY23	15JUN23
4030	Utilities water Line,sewer, electrical	80d	18MAY23	08SEP23
4015	Storm Drainage	25d	15JUN23	21JUL23
4050	Landscaping / Site Fencing	45d	18JUL23 *	19SEP23
4040	Field Construction / Turf Installation	39d	21JUL23	14SEP23
4110	HMA Paving	40d	10AUG23	05OCT23
4135	Sports Field Accessories	7d	10AUG23	21AUG23
4045	Hardscape	7d	12SEP23 *	20SEP23
4130	Athletic Fields Substantially Complete	0		05OCT23
PRESS BOX / CONCESSION				
4200	CONSTRUCT NEW CONCESSION / PRESS	112d	01MAY23 *	05OCT23
4080	New Bleacher ADA access Installation	15d	09AUG23 *	29AUG23
4065	Renovation of existing concession building	35d	23AUG23 *	10OCT23
4060	Visitor Bleacher Installation	15d	01SEP23 *	21SEP23
NORTH ROCKLAND HIGH SCHOOL				
5050	ASBESTOS ABATEMENT - GYM FLOOR	10d	26JUN23 *	11JUL23
5055	LOCKER ROOMS DEMOLITION / NEW WORK	25d	03JUL23	08AUG23
5060	INSTALL DUCTWORK	10d	18JUL23	01AUG23
5065	INSTALL LIGHTING / FIRE ALARM SYSTEMS	5d	25JUL23	01AUG23



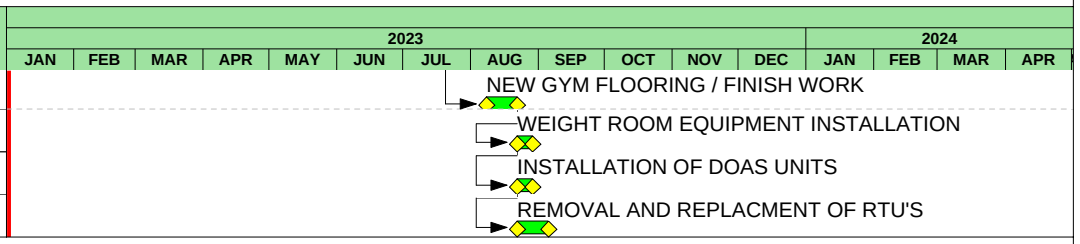
Early start point
Early finish point
Early bar
Progress bar
Critical bar
Summary bar
Progress point
Critical point
Summary point
Start milestone point
Finish milestone point

PHASE 1 PROJECT MILESTONE SCHEDULE

Company name	THE PALOMBO GROUP INC.
Run date	14MAR23
Data date	02JAN23
Number/Version	Rev.0
Project name	North Rockland ...

NORTH ROCKLAND CSD PHASE 1 CAPITAL PROJECT

Activity ID	Description	Original Duration	Early Start	Early Finish
5100	NEW GYM FLOORING / FINISH WORK	10d	08AUG23	22AUG23
5105	WEIGHT ROOM EQUIPMENT INSTALLATION	5d	22AUG23	29AUG23
5110	INSTALLATION OF DOAS UNITS	5d	22AUG23	29AUG23
5115	REMOVAL AND REPLACMENT OF RTU'S	10d	22AUG23	05SEP23



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PHASE 1 PROJECT MILESTONE SCHEDULE

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Project name	North Rockland ...